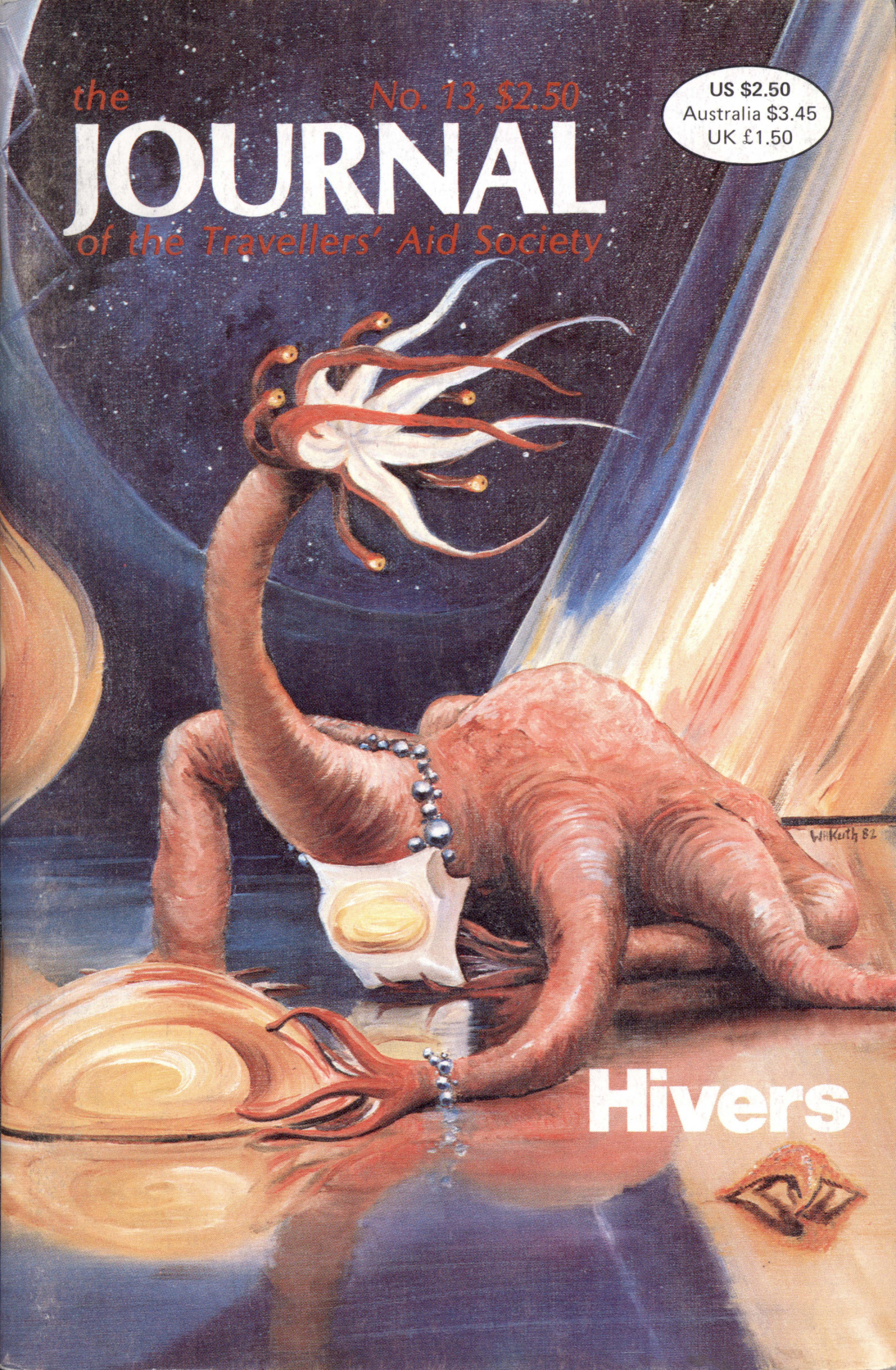
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Traveller is Game Designers' Workshop's registered trademark for its role-playing game of science fiction adventure set in the far future.

Dates in this issue of the *Journal* are given in accordance with an arbitrary Imperial calendar of 365 days. The date consists of a three-digit number (the current day of the year) a dash and a four-digit number (showing the current year since the founding of the Imperium).

The date of this issue is **131-1108** or the 131st day of the 1108th year of the Imperium.

The *Journal of the Travellers' Aid Society* is a science-fiction gaming magazine dedicated to **Traveller,** GDW's role-playing game set in the far future.

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Spiritual Advisor: Marc W. Miller
Booklet Design and Layout: Chris Purcell
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WINNER— H. G. WELLS AWARD: BEST MAGAZINE COVERING ROLE-PLAYING, 1980

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Advertisers should inquire for an advertising rate card.

Submissions: We welcome articles and illustrations for the Journal. Please inquire before submitting manuscripts, enclosing a stamped, self-addressed envelope; we will send manuscript guideline and format sheets.

From the Management

In *from the management* this issue, Frank Chadwick speculates about the future of gaming:

Where is the Adventure Gaming hobby going? This is a matter of more than a little concern to those of us in the business, and will hold some interest for most players.

Since the future springs from the present, let us first examine briefly the situation in the industry as it now stands. For the first time, gaming has been affected by a recession. Buying is down, and everyone is experiencing cash-flow problems. Several manufacturers are experiencing severe financial difficulties. Adventure gaming has not been hit as hard as some sectors of the economy, but we have been affected.

Board game sales are stable overall. Smaller, simpler games are capturing a larger share of the total sales.

Miniatures sales are off, with historical miniatures sales suffering the most. Most miniatures sales are "tie-ins" with fantasy or SF RPGs.

For the first time, total role-playing game sales are off, but apparently affecting only TSR. Other publishers' sales are steady or expanding slightly, taking a larger share of a slightly contracting market.

Video arcade games appear to have cut into the role-playing market more than miniatures or board games, and with the recession explain the contraction in that category. I do not believe, like some, that the RPG boom has ended, merely that it will change its character, like the SF game boom did.

In general, the growth of the hobby over the last couple of years has changed not only its size (expanding it several times), but also its basic nature. With the increased media attention given to gaming, and the increased number of gamers, the hobby is no longer dominated by solitaire, play-by-mail of small group activity. Now large gaming clubs abound, in many areas separating into specialized interest groups, such as SF&F RPGs, or WWII boardgames. It is now possible for gamers almost everywhere to be able to attend at least one large gaming convention each year (and in some regions it is possible to attend several). The emphasis is increasing upon multiple player games, easy entry (rules that are simple, and easy to learn) and short playing times, so several games can be played in a single evening. The average gamer today doesn't have the time or the inclination to devote himself (or herself) to a single game, and allow that game to become a way of life.

In board games, the trend will not be toward simple games. We're already there. However, whenever there is a pent-up demand for a specific type of product (like SF games a couple of years ago) first there is a deluge of products, then, once there are enough to choose from, there will be a shakeout (as is beginning to happen now). It will no longer be enough to put out a "beer & pretzels" game (a game with simple rules). As the field becomes increasingly competitive, the old "playability vs realism" excuse will no longer hold water. Games will have to be both playable and realistic in order to succeed.

In miniatures, there will be an increasing emphasis on rules which allow for short playing times and low number of figures required to start

playing. The best example of this is Yaquinto's *The Sword and the Flame.* These games will be designed so that one or two players can play several games in four or five hours with only a handful of figures, but will also be adaptable to large club play.

Role-playing will see the introduction of many games that are not mainline games, games that are not a career to play. There will be continued loyalty for proven systems, and none of the old standbys will lose players to the new games, but there will be a greatly expanded market for small, simple systems.

Computer software will become a category of its own (for all practical purposes, it is one already). These games are easy to learn, and are easy to play (since the computer does the work and keeps the records). Look for more challenging games in all categories, as well as new categories, such as assistance programs for more conventional games (programs which will help referee RPGs, for instance, or do the bookkeeping for a boardgame). In three years, software will probably account for about 50% of adventure gaming revenues.

– Frank Chadwick

GDW recently announced the successful settlement of its suit against Edu-Ware Services, Inc., Steven W. Pederson, and Sherwin A. Steffin.

The suit alleged infringement of copyrights held by GDW for its **Traveller** game. At issue were Space and Space II, computer software games published by Edu-Ware. According to the complaint filed in Federal Court, the defendants infringed **Traveller** copyrights by writing and selling these programs.

In a consent judgement dated 20 May, 1982, it was adjudged that the defendants had infringed GDW's copyrights and engaged in unfair trade practices; and it was decreed that the defendants are prohibited from publishing and selling Space and Space II.

As part of the settlement, Edu-Ware, Pederson, and Steffin consented to the judgement and made a cash payment to GDW. They also agreed to turn over to GDW all existing copies of Space and Space II in their possession, as well as assign GDW their copyrights for the two titles.

Further, Edu-Ware is obliged to make every reasonable effort to recall all copies of Space and Space II in the hands of their distributors.

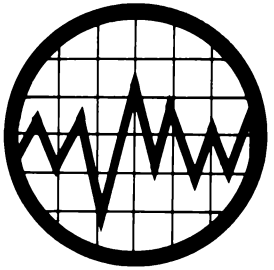
This settlement preserves for GDW protection under the law for its **Traveller** game, its ancillary licensing rights, and its own forthcoming line of **Traveller** software for personal computers. Any further infringements will be energetically prosecuted to assure continued copyright protection.

GDW plans an extensive ad campaign for its upcoming **Traveller** software, and plans to begin with preliminary advertising publicizing the facts of the infringement and its settlement.

Traveller is available overseas through GDW distributors in the UK and Australia. We recommend that our readers in these countries obtain copies through their respective distributors.

United Kingdom: Traveller (and its additional booklets, adventures and supplements) is printed under license from GDW by Games Workshop, 27-29 Sun beam Rd, Park Royal, London NW10. GW import the *Journal* and other GDW products.

Australia: Traveller products are imported and distributed by Jedko Games, 18 Fonceca St, Mordialloc, Vic.



JUST DETECTED

Games

Moon Base Clavius

A board game depicting tactical combat between US marines and the Soviet lunar forces on the moon in the year 1996.

One 18 page rules book, one 17" x 22" map, and 108 die-cut counters in a vinyl bag. $3.95.

Design: Kerry Anderson.

Publisher: Task Force Games, 1110 N. Filmore, Amarillo, TX 79107.

Space Empires

An abstract, strategic level game of interstellar conflict, in which the players construct starfleets and use them to conquer known space.

One 8 page rules book, one 17½" x 21" map, and 108 counters. $5.00.

Design: Neil Zimmerer.

Publisher: Mayfair Games, PO Box 733, Chicago, IL 60625.

Play-Aids

FCI Consumer Guide

An expansion of the Traveller book 3 equipment lists, including everything from air purifiers to video-tape cameras.

One 48 page booklet. $6.00.

Design: Steve Harmon.

Publisher: FASA, PO Box 6930, Chicago, IL 60680.

Aslan Mercenary Ships

Deck plans of two different Aslan mercenary vessels, details of the organization and structure of the Aslan mercenary regiment they carry, an essay on the Aslan at war, and two scenarios for use with them (including *Striker* ratings). Counters are included for use with the *Snapshot* or *Azhanti High Lightning* combat rules as well.

Three two-sided 21½" x 33" deck plans, two 16 page booklets, and 112 die-cut counters, all in a box. $12.50.

Design: J. Andrew Keith, Jordan Weisman, Ross Babcock.

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Deck plans for six different 1000 ton merchant ships. Full descriptions of the vessels and their crews, operational procedures for merchants, and suggestions for adventure situations involving merchants and merchant vessels. Counters representing the crew, passengers and others are included for use with the *Snapshot* or *Azhanti High Lightning* combat rules.

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Trading Team

In this adventure, the players are a team from the free trader Scotian Huntress, and must open trade with the natives of Htalrea. To succeed, the players will need to learn the rituals and ways of the locals. $2.00.

Design: J. Andrew Keith

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TRAVELLER NEWS SERVICE

REGINA/REGINA-0310 **Date 35-1108**

¶ In a recorded statement to the press today, Admiral Santanocheev announced that Yorbund (Regina 0703) has fallen to Vargr forces after a long, hard-fought battle. Most Imperial and colonial forces were successfully withdrawn from the system.

¶ Admiral Santanocheev's statement went on to announce the fall of Ruby (Jewell 0205), Emerald (Jewell 0206), and Lysen (Jewell 0507) to Zhodani forces, but added that fighting continues on Jewell and the other worlds of the subsector, as well as on Kinorb (Regina 0602).

¶ A representative of the Imperial navy declined to comment when asked if this fighting involved regular fleet or ground forces. Observers have speculated that some Imperial units have been badly mauled in the Jewell subsector, and their remnants have joined with local forces to fight a guerilla war in that subsector. Ω

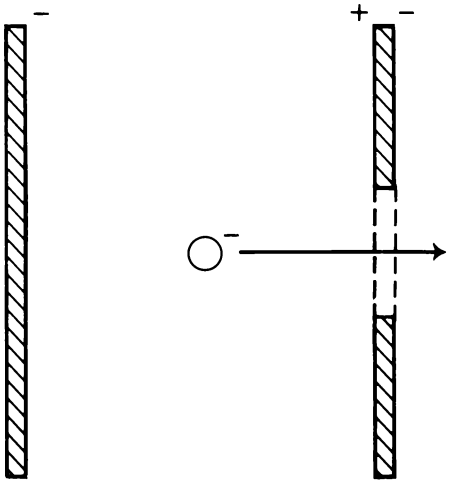
ARAMIS/ARAMIS (0710-A6B0556-B) **Date 122-1108**

¶ Equipment, records and personnel of Imperial reasearch station Beta are reported by unofficial sources to have been evacuated from Yori (Regina 0510) and are now said to be under heavy guard somewhere in the Aramis system.The station will almost certainly be re-opened, but it is not known where the station will be re-located, or when it will resume operations.

¶ No information is available concerning the fate of Imperial research station Delta, located on Retinae (Querion 0406). While the exact nature of station Delta's research is classified, the information in such stations is in the forefront of advances in Imperial technology, and thus is of extreme interest to other powers. Ω

Traveller News Service is another Imperium-wide benefit of membership in the Travellers' Aid Society.

Charged Particle Accelerator Weapons



Editor's Note: Dave Emigh is one of the people GDW consulted in the design of *High Guard.* We felt *High Guard* players might find his comments on particle weapons interesting.

One of the most potent weapons systems of the distant future will most likely be some form of Charged-Particle Accelerator Weapons System (C-PAWS). With a C-PAWS, a single ship would have the power to subdue entire planetary systems. Such a weapon will have to be extraordinarily large in order to function at reasonable energies.

BASICS

An accelerator is a device which is used to get charged particles to very high speeds, speeds approaching the speed of light. To do this, accelerators make use of the simple fact that particles which are similarly charged repel each other and particles which are oppositely charged attract each other. In the illustration above, we see an example of a simple accelerator, a negatively charged particle between a negatively charged plate and a positively charged plate. The particle is repelled by the negative plate and attracted by the positive plate, accelerating the particle towards the positive plate. The positive plate has a hole in it, and the particle shoots through this hole to the other side of the plate. The other side of the plate is negatively charged, and the particle finds itself in the same position it was in before. A series of such plates or stations, can accelerate a particle to quite high speeds. The whole thing must be in a vacuum, of course, or else air molecules would get in the way, and foul the whole thing up.

Since a C-PAWS is simply a way of damaging a target by transferring energy to it, the more energy that can be pumped into a beam, the better. Ideally, a particle could be accelerated to any energy (speed) we desire from a single station. Unfortunately, we are prohibited from the ideal state by three considerations. The first is called "breaking down of the plates". If both plates in the accelerator station are too highly charged they will be discharged, that is, a bolt of energy (like lightning) will jump from one plate to the other, making both plates uncharged. When this happens, the particle is no longer accelerated. This means that only a limited amount of energy can be pump-

ed into each plate, and instead of one large push, we are forced to use a series of smaller pushes. The second consideration is Einstein's Theory of Relativity. In a sense, this says that as we accelerate a particle to higher velocities, it gets harder to accelerate. It also says that we can only approach the speed of light, we can never reach it. The third consideration is related to the fact that accelerated particles emit light and thus lose energy. For small accelerations this is not very important, but for larger ones it is a significant factor.

The first two considerations mean that instead of being able to accelerate particles over short flight paths, a much longer flight path is needed. For accelerator weapons of the far future (not the lower power models being discussed today) we will need about a mile of flight path to accelerate a beam. The third consideration means that most non-linear configurations (like small circular paths) will also be impractical. In terms of **Traveller** this means that a good, planet-crushing device will need about a mile's worth of accelerator and enough power to light up a planet.

The size of the machine would mean that a very large ship would be required to carry it and the power requirements would most likely mean that only one planet-cracker could be carried on a ship (possibly two for extremely large vessels). There are two types of accelerators that could go on a large warship, the simple linear accelerator described above, and the circular synchrotron. I feel that the circular configuration will be found to be unsuitable for combat in space. For one thing, to keep a beam in a circular path the device has to continually accelerate the beam. If any one of the accelerating stations gets put out of action the machine will no longer be able to function. A linear accelerator, on the other hand, can lose power in several of its stations and still produce a beam. With advanced computers, I feel that a linear accelerator would be able to absorb a great deal of damage before it is forced to shut down.

CONFIGURATIONS

The first dreadnought of space would most likely be a ship dedicated solely to its accelerator. Because of the necessity for a linear form, and the large number of stations required, the ship will be incredably long, perhaps over a mile. Such a ship would be clumsy, slow, and vulnerable, but would also be a mortal danger to any planet it could reach.

As technology advances, the length required for an accelerator would be reduced, and they would become more effecient, requiring less power for the same effect. Even by tech level 15, however, a ship carrying a large C-PAWS will still use the weapon as its backbone.

The accelerators we have discussed so far are the large, main armament type, used in spinal mounts in *High Guard.* Smaller accelerators would also be available, operating on similar principles.

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These weapons *(High Guard's* 50 and 100 ton bay weapons) could be circular, since they would not be a ship's sole armament, and damage to one would not wipe out a ship's offensive power.

MESON ACCELERATORS

A very potent weapon of the future could be the meson accelerator, or meson gun. A meson gun is actually two very high energy accellerators, one of which accelerates electrons and the other positrons. Both of these beams are directed to a point in space, and the two collide. One of the by-products of this collision will be mesons, produced in such a way that most of them will travel in the direction of the target. Mesons themselves are relatively harmless, and do not effect matter in any way, passing through planets as if they weren't there. Mesons, however, decay very rapidly into other sorts of subatomic particles, which will do great damage. The point at which the component beams meet will determine when the mesons are formed, and where they decay. The main difficulty with a meson gun is for the mother ship to correctly calculate the proper meeting point and energies of the two component beams in order to hit the target with the decaying mesons. Such a system will require a very large, very fast computing system, well beyond present day capabilities. The creation and use of a meson gun will be a true technological marvel.

CONCLUSION

It is my personal belief that accelerators will be the most important weapon in space in the future, far more important than lasers except in pursuit roles. Most future ships of the line will be designed around a large accelerator system of one of the types described above.

— David Emigh

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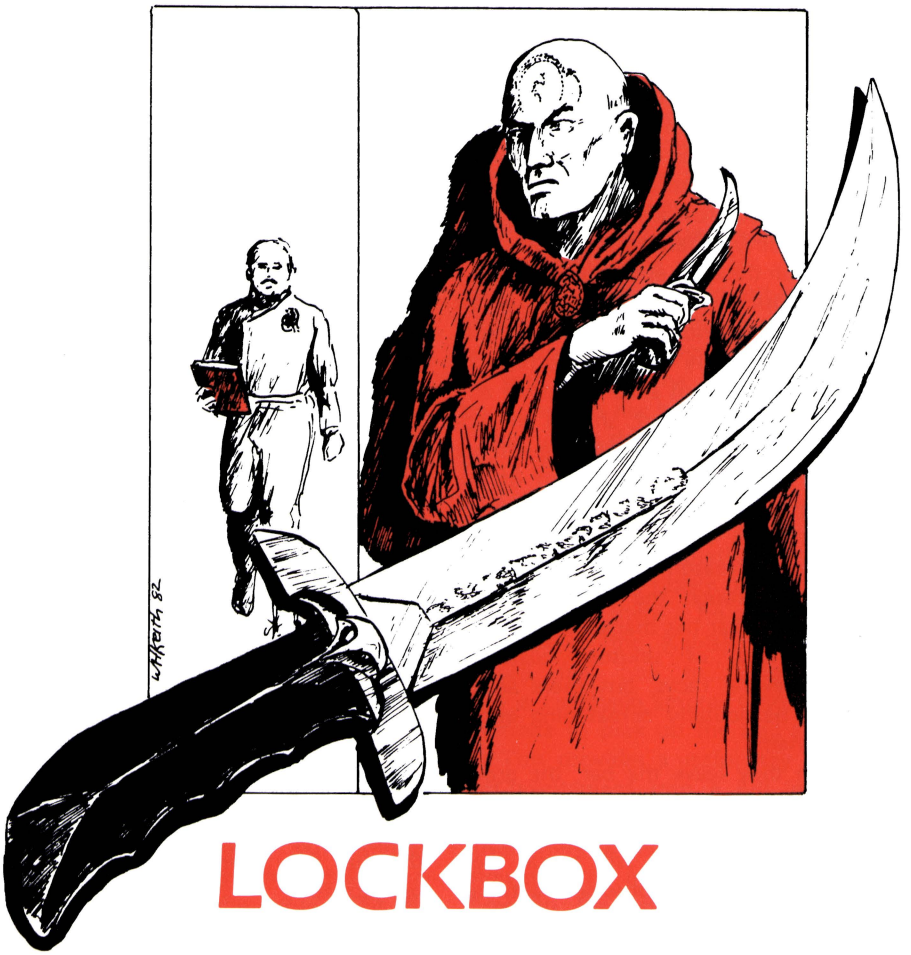


LOCKBOX

Amber Zone

Players' Information:

One night, in a bar near the starport, the adventurers are interrupted in their evening's entertainment by a pale, excitable man. Dressed in a non-descript shipsuit, the man is plainly agitated and continually seems to be checking out the entire room with nervous glances. He approaches the group, pulls out a key hung from a chain around his neck, and shows it to them.

The key, he says, is to lockbox 9764-A2 at the starport complex. Inside is a package he wants delivered to Urkinu Gamega, a gentleman from off-planet expected to arrive shortly. As he has been called away on urgent business, the man wants to hire the party to keep the key and deliver the parcel to Gamega when he arrives. He will give them Cr250 now and another Cr250 after the delivery is made, not bad pay for simply waiting a day or two.

Close questioning will not reveal much more information. The package, he says, is not really valuable to anyone except Gamega, a collector of interesting curios. Other than that the man is unwilling to discuss details of the offer. As the discussion reaches this point, the man seems to grow even more agitated, looking fairly often towards the dark corner near the bar's entrance. Suddenly, without further argument, he drops both the key and Cr250 on the table and moves quickly towards the back of the bar. He will not stop to answer any further questions, and, should the adventurers try to go after him, he will get a good enough lead to get out of the building and out of sight before followers can catch up. There seems to be little enough reason behind his sudden departure through the back entrance; the crowded bar has many patrons, in a wide variety of unusual costumes and of several races, but there seems nothing particularly threatening about any of them.

When they leave the bar, the group will be attracted to a back alley by hoarse cries for help, and the sounds of a fight. Investigation will reveal their recent companion, stabbed several times, and on the verge of death, near the alleyway entrance. As they approach the spot, the adventurers will have the impression of several figures fading into the shadows, but the assailants escape from the other end of the alley before they can be caught.

Their erstwhile patron dies as they attempt to help him; his last words, whispered, are "Don't . . . look!". The only clue to the attack is a strangely curved, heavily ornamented dagger discovered near the body. None in the group has ever encountered one like it before. This, and the key to the lockbox, are the only links with the dead man. But questions remain: Who was he? Why was he killed? What are we not supposed to look at? And what is in the lockbox that might be connected with the death?

Referee's Information:

The man was Shawn Grey, a merchant engineer between shipboard jobs. He will carry this identification, and it is later proved to be correct. A card in his ID pouch carries the name of Gamega, identified as a collector of unusual artifacts, residing on a nearby world. Scribbled on the back of the card is a date and a flight number, which proves to be a schedule for a starship arrival from Gamega's home planet four days from now.

Records and information about Grey will reveal that he works for Gamega on occasion as an agent charged with bringing in interesting and unusual artifacts from various off-beat worlds and cultures. He has been making extra money – up to Cr5,000 at a time – by doing this for some 15 months now. Grey's last ship called at a number of interesting planets, including Otrai, a little-known, human-inhabited world that has only been marginally explored or mapped.

What the adventurers will not find out right away, however, is the fact that Grey rarely acquired artifacts for his employer through legal or ethical channels. He tended to remove them without first consulting their owners. This is true of his most recent find, an urn inscribed with a number of interesting symbols which he picked up on Otrai, during his visit there.

The urn is an important religious relic from the Kai-laek culture of Otrai's highlands. The Kai-laek are a human group, but one which has turned to an aesthetic life dominated by their harsh and demanding religion. The Kai-laek are fanatic followers of beliefs that

allow no room for mercy, tolerance or forgiveness. Additionally, the Kai-laek are especially touchy on the subject of interference by non-believers in the sanctity of their shrines and holy relics.

By removing the urn, Grey brought down a death sentence on his head. The Kai-laek have dispatched a number of people to hunt down and recover the urn; their beliefs also require that anyone not of the sect who looks upon the urn be killed. The one restraint upon this requirement is a simple one: blood may not be shed in the presence of the urn itself. Thus, Grey was safe as long as he kept the urn on his person. By leaving it in the starport lockbox, he exposed himself to attack.

The adventurers will be perfectly safe from harm unless they actually look at the urn. They will be followed constantly by the Kai-laek assassins, and, will be approached early on by several of the Kai-laek. These emissaries will demand the return of their property. If the key is turned over, nothing more will happen. If it is denied, the shadowing will continue; minor attacks may be made to get the key, but nothing further. If, however, the adventurers decide to examine the contents of the lockbox, they will be leaving themselves open to the same fate that claimed Grey. From that moment on, the adventurers and anyone they show the urn to will be attacked if found away from the urn.

The Kai-laek are normally seen hooded and cloaked in dark robes. They prefer to use daggers to kill, but are also adept in the use of a variety of poisons. They are fanatics, utterly devoted to their cause. They may be eluded by a trick, by luck, or by being defeated, but such evasion will be temporary. Sooner or later, they or others like them will again pick up the trail and continue to hunt their targets down.

The exact course of action followed by the adventurers can vary widely; it will be up to the referee to determine the exact course of events in response to their actions. Local authorities will not be inclined to believe them and will do very little to help. Gamega, if he arrives, will recognize the urn for what it is. Most likely he will panic and attempt to escape. He might be inclined to hire the adventurers as bodyguards, since both he and they will be marked for death once the urn has been revealed to him. If the urn is described to him, without being shown, he will attempt to avoid all contact with it and with the adventurers, and may attempt to set them up by giving false information regarding a solution to the problem of the assassins.

In reality, there is no solution to the problem of the Kai-lek. The referee should feel free to bring Kai-laek into a campaign several times, as they continue to pick up the trail and close in. This provides a useful way to interject excitement into a lull in regular activity, or to provide a motive to the adventurers to move on when they are showing little inclination to go in the direction the referee desires. Such a recurring problem, handled by the referee with discretion and care, can provide useful continuity to any ongoing situation.

— J. Andrew Keith.

In our second survey, almost twice the number of readers (142) returned answers. The results are as follows:

Merchant Prince	4.45
AZ Tarkine Down	3.43
AZ Royal Hunt	3.48
Contact: Virushi	4.02
Harlequin Subsector	3.93
Imperial Marine Organization	3.63
Striker errata	3.51
Strike It Rich	3.54
From the Management	3.65
Just Detected	3.11
Traveller News Service	3.74
Casual Encounter	3.57
Issue 12 overall	4.17

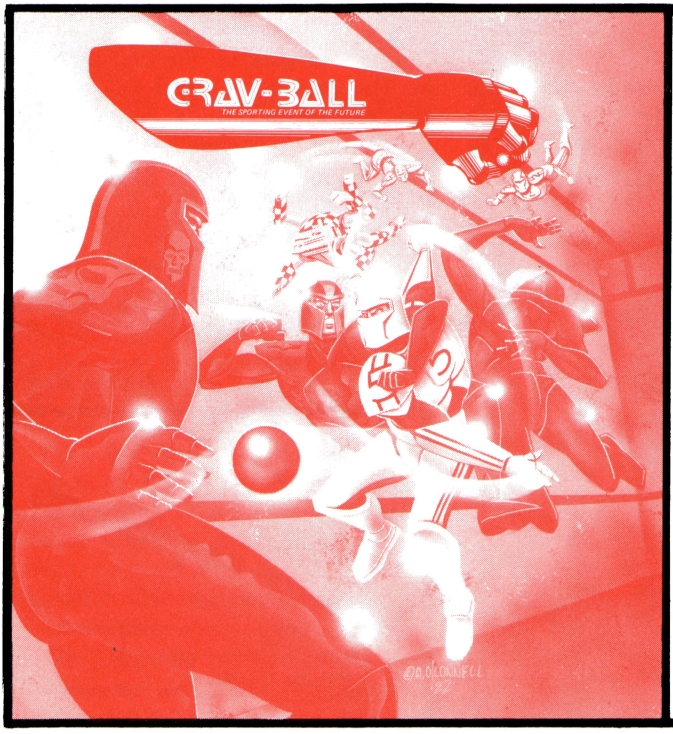
This issue, in addition to rating each article and the issue overall from 1 (bad) to 5 (excellent) we would like our readers to provide some general information about themselves and the people they play **Traveller** with.

First, how large is the group with which you play **Traveller?** If you belong to a club, how large is it, what is the range of ages of its members, and how often do you meet?

Second, do you play other games besides **Traveller?** If so, are they other RPGs, boardgames, or miniatures?

How many years of education have you and your fellow players had? What is the spread of education in your club, if you belong?

Third, if you belong to a club, is it devoted solely to role-playing, or does it include members who play other games, such as miniatures or boardgames?



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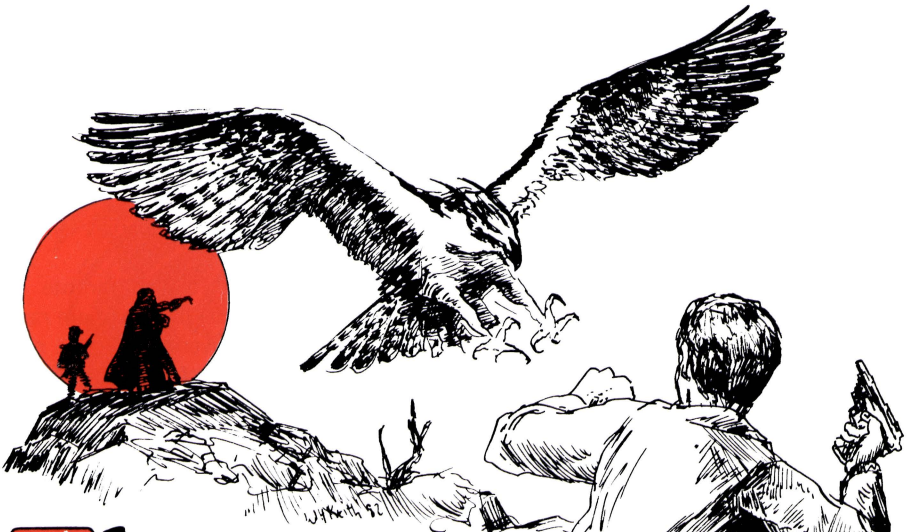


The Bestiary

Garhawk

(Stellafalconformis ululatis)

Also known as the Skyhuntress, or Kahkahyeek from its hunting call, the garhawk has become popular in some circles of Imperial nobility for hunting. Properly trained garhawks, with their keen eyesight and superb hunting instincts, can spot and kill prey over remarkably long distances.

Garhawks are large (over 1 meter wingspan) flying carnivores, originally from Nagaschk, a planet to spinward of the Imperial core. Natives of the world, a tech 3 race, delighted in hunting; their use of garhawks in their sport sparked interest among human visitors. Once the trick of raising and training these vicious aveforms was mastered, a small but lucrative trade in garhawks gradually opened, introducing them through much of the Imperium, the Solomani Sphere, and even within the Zhodani Consulate. Humans, at least those enjoying the hunt, have found the sport of hunting with garhawks a fascinating renaissance of falconry and hawking.

The Stellafalconformes are prime examples of convergent evolution. Externally, they are quite similar to the Exoaccipitiformes of Kalga, the Falconiformes of Terra, and countless other aveform families throughout known space, where natural selection has acted to mold highly efficient flying hunters. Garhawks are not true birds; they bear live young in nest-litters of two or three. The young are fed meat in the nest by the two parents for three months. After their first flight, the young will remain in the nest for from six to nine

months. Garhawks form mate-pairs which last for life; they are often sold in pairs, for this increases the lifespan (and the value) of the animal, but they rarely breed in captivity, and those that do are inferior hunters. The average lifespan is ten years, although one specimen lived for nineteen years after it was taken.

Garhawks should always be approached cautiously. Sudden noises or movements, unfamiliar voices or odors, brightly colored or shiny objects or articles of clothing have been known to provoke sudden and unrelenting attacks. Trained garhawks are used to hunt a wide variety of small animals, usually not exceeding half the garhawk's weight. However, they have been known to ferociously attack creatures far larger than themselves in defense of their young, or on command from an experienced handler.

It is not a sport for the poor (which also explains its popularity in certain circles). Garhawks are expensive to buy — a trained one demands a price of close to Cr5,000 — and expensive to maintain. A full-grown garhawk, weighing as much as 6 kilos, needs 500 grams of fresh meat per day. A temperamental creature, a garhawk can be particularly vicious when it is not properly fed and cared for. Other expenses include heavy gloves, pads, and training paraphernalia for the handler, hoods and collars for the garhawk. A full-time handler is required to feed and care for the creatures, and to constantly sharpen their training. Garhawk falconry remains a sport of the very rich.

Adventurers may encounter garhawks in a variety of circumstances. For example, a wealthy patron or enemy may keep them for sport; one encounter might find a nobleman unleashing his garhawk against unwanted intruders to his estate.

Skyhuntresses are occasionally found aboard ships as cargo, especially if the destination is a world where hunting is popular, or where there are many landed estates. Adventurers owning a starship may be hired to deliver a mated-pair of garhawks to a noble . . . and woe betide them if the feeding instructions for their charges are not carried out precisely.

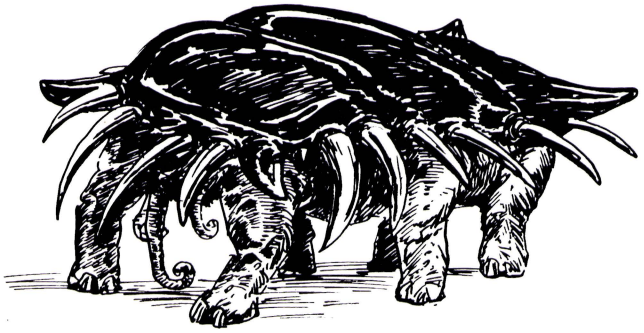
Garhawks inhabit such remote and hard-to-get-to places that they are rarely encountered by adventurers. If a party is actively searching for Garhawks, roll 12 exactly each week spent searching the proper locations (generally high, not readily accessible mountaintops, cliff faces, and so on) for them to successfully locate a nest.

Characters with noble or hunter backgrounds are the only characters likely to have had past experience training garhawks. On a roll of 6 on one die, a hunter or noble will be familiar enough with these creatures to attempt to handle them; they may be able to turn a garhawk's attack on a roll of 7+. (The referee may wish to designate DMs for various skills which may be applicable.)

Training a garhawk requires much time, patience, and blood. One raised in captivity usually lacks the spirit of its wild cousins. A garhawk must be captured while still flightless in the nest in order for optimum training. Those captured too soon will not survive, and those captured too late will be too hard to control (although even the best trained of garhawks are difficult to control completely).

Training takes six to eight months, with a training session every day. On each encounter, roll 10+ to avoid attack; past experience gives a DM+3. Dexterity, strength, intelligence, and JoT skills can all be used as DMs at the referee's discretion.

— J. Andrew Keith



Hoplites

(Marmotophagus var.)

A large, heavily armored intermittent found on many worlds throughout the territory once ruled by the Vilani empire. The world of origin of these beasts is not known with certainty, since early Vilani colonizations and subsequent settlement efforts have resulted in hundreds of worlds with mixed biochemistries. Because of the carapace and its horns, the hoplite is believed to have originated on a world with many large predators, and this and other factors have limited the number of possible worlds to less than a dozen, mostly in the Vland sector.

Adult hoplites weigh about 1600 kg, and are usually around 2.5 meters long and one meter at a shoulder. They are bilaterally symmetrical, homeothermic hexapods, with a closed circulatory system incorporating a three-chambered heart.

The most notable feature is the thick, articulated carpace (with many projecting horns) covering the dorsal surface of the animal's body.

Hoplites are solitary animals, usually feeding on small, burrowing animals. They locate the burrows by smell, and probe within them using an extensible, tough proboscis. When the prey is located, the proboscis grabs it, extracts it from the burrow, and conveys it to the mouth, located on the underside of the head. When not in use, the proboscis is pulled back under the head, forming the j-shaped structure shown in the illustration.

The paired structures shown on either side of the proboscis are extremely sensitive feelers used by the hoplite to detect the vibrations of an approaching predator or the faint sounds made by a burrowing animal. The forward facing horns are sometimes used to enlarge a burrow to make the insertion of the proboscis and extraction of prey easier.

When attacked, the hoplite will attempt to run, but if cornered, will turn on its attacker, and begin to gyrate its body, slashing with its horns. It takes a tough, determined predator to bring down an adult hoplite.

— Loren Wiseman

Animal	*Weight*	*Hits*	*Armor*	*Wounds & Weapons*		
Garhawk	3kg	2/0	none	-6	Claws	A3 F8 S3
Hoplite	1600kg	24/10	Cloth	15	horns	F4 A7 S1

CONTACT! The Hive

Hivers are an intelligent major race with a large federation trailing the Imperium. The term *hiver* is human, as hivers have no spoken language. Terms used in connection with hivers are either human in origin, or spring from one of the non-hiver races of the Federation.

GENERAL

Hivers average 1.5 meters from ground to top of upraised head and weigh about 150 kilos. Descended from omnivore gatherer/scavenger stock, they are the most alien of the major races. Hivers exhibit a modified six-fold radial symmetry; the body has a calcareous internal skeleton consisting of a series of rings supporting the limbs and a fused carapace protecting the brain and internal organs.

The head is a modification of one of the limbs and contains six eyestalks and six manipulative tentacles, plus paired infrared sensor organs and three ears placed around the neck near the head. There is no sound producing organ.

The other five limbs are identical (except for slight modifications of the hand opposite the head) and are used as arms and legs indiscriminately. Each limb ends in a six-fingered radial hand. Fingers are very flexible and have muscular suction cups on the lower surface about halfway to the tips. Hiver arms and hands are generally weaker than human, but are very tough and difficult to injure.

Hiver vision is equal to that of a human in normal light. Hiver infrared sensors enable them to see in the absence of visible light, but the resolution of these sensors is not as good as that of their eyes. Their hearing is equal to that of a human. No evidence of psionic abilities has ever been demonstrated in hivers.

Hivers have only one sex. Reproductive cells are exchanged each time that

hivers meet, using the modified rear hand (the process has been termed by humans "shaking hands"). The cells are kept in a reproductive pouch on the lower body surface where they conjugate, exchanging genetic material. Once every forty days or so, a cell will develop into a larva, which then drops from the parent's body. Hiver planets are mostly wilderness, and the larvae enter the wilds, where most are killed. After about a year, survivors return to civilization, where they are welcomed into any nest and begin their education as citizens. Parental instinct in hivers is very strong for these yearlings, and the young are adopted by the entire nest.

Hiver language is a combination of arm/tentacle waving and physical contact. The written language is ideographic, and is used as a standard language among the races of the Hive Federation. Hivers talking among themselves use all three aspects of language (gesture, touch, and writing) at once, a process capable of great subtlety and sophistication, but unintelligible to the outsider. The typical means of communication between hiver and human is the translator which converts spoken language into an animated representation of a gesticulating hiver, with written symbols. As used by hivers, the translator box converts the hiver's manipulated input into spoken words by means of a vocal simulator.

SOCIETY

Hive society is highly individualistic. The term *hive* results from an early human misconception, stemming from the appearance of the hivers' building and tunnel complexes. Nests contain from five to five hundred individuals, usually centered around some common endeavor. While one hundred is the average size for a nest (and was the size in pre-civilized times), larger groups may come together for some civilized purpose such as large manufacturing companies or universities. Small nests are usually spaceship crews or isolated research parties. A young hiver will spend his first fifteen years in his home nest; thereafter, nest changes may take place as often as a modern human might change jobs.

Hiver cities usually contain several nests, and are quite sprawling by human standards, each building having a good sized area of wilderness surrounding it. Of course, the bulk of a hiver city is underground.

Hiver industry and business excel at communications technology. Major exports include artificial and computer languages, translators, and sophisticated electronic hardware of all types. Hiver mathematical systems are much in demand for their power and elegance.

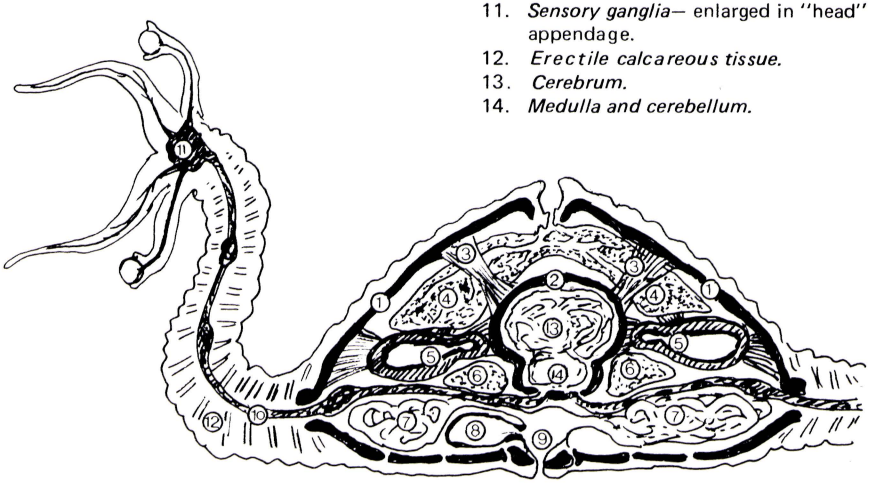
GOVERNMENT

The loose interstellar community dominated by the hivers is called the Hive Federation; Hive Confederation is also sometimes used. The hivers have only one culture and one language; the hiver genotype (with individual variations similar in degree to differences between individual humans of the same race) is also constant. The Federation government (if such a term is applicable) is mostly concerned with maintaining the uniformity of the hiver culture and species. This is accomplished by frequent reproductive embassies from one planet to another. Members of many different nests will shake hands with everyone nearby in a sort of farewell party and will then board a large embassy ship bound for a far-off world. Once there, they will meet with as many people as possible, shaking hands and exchanging news, art, gossip, scientific information, political views, and so on for about a year. They will

then return home for another year-long round of parties, discussions, and handshaking. Most disputes among communities are handled in these embassies; others, considered too urgent or transient to wait for an embassy, are settled by judges. There is a considerable body of hiver common law and custom, and a

HIVER INTERNAL ANATOMY

1. *Exoskeletal shell*— covered with leathery skin and adipose tissue.
2. *Endoskeletal "skull".*
3. *Support muscles.*
4. *Lungs*— six lobes operated by heart contractions.
5. *Ring heart*— twelve-chambered, flattened tube surrounding brain.
6. *Digestive organs.*
7. *Digestive caeca.*
8. *Genital pouch.*
9. *Uro-genital-oro-excretory cloaca.*
10. *Primary nerve trunk.*
11. *Sensory ganglia*— enlarged in "head" appendage.
12. *Erectile calcareous tissue.*
13. *Cerebrum.*
14. *Medulla and cerebellum.*



judge is a person who has spent years in study of the law; judges' decisions are not necessarily binding and are open to compromise, but carry a great weight of custom.

The discovery of alien races and their integration into society required a slightly more formal organization, which grew out of the coordinating body which scheduled embassies. Two additional bodies were established: the Federation navy and a development agency.

The hiver parental instinct was aroused by the discovery of numerous intelligent species less fortunate than themselves, and work began immediately to lift the "children" to civilization. An early experience with an aggressive race led to the establishment of a system of quarantine worlds, denied entry to (or knowledge of) interstellar society. Covert operations are in progress on quarantine worlds to modify overly-aggressive cultures into acceptable members of the Federation, and several quarantined planets have been opened since the beginning of the program. So far, no quarantined race is close to achieving interstellar travel on its own; public debate continues on what to do in such a case.

The navy is the main instrument of military force. Hivers came late to the concept of war (having fought none until long after they discovered jump drives) and are more comfortable with high-technology, long-range violence, disliking the personal approach of ground combat. When ground forces are

absolutely needed, other races of the Federation generally supply the troops. Federation armed forces are essentially a deterrent force, and are seldom used as an instrument of policy.

Other races of the Federation are equal partners in society, although the structure of society is hiver-generated, and those races able to adapt best to a hiver way of life and hiver customs have been most successful. All races participate in the embassies, although in a modified form. Some associate species retain strong internal governments or police forces to regulate the aggressive tendencies of their members, but whatever the solution reached, all Federation-member societies are non-aggressive.

Most worlds of the Federation have communities of several species; races inhabit the worlds they find most pleasant.

HISTORY

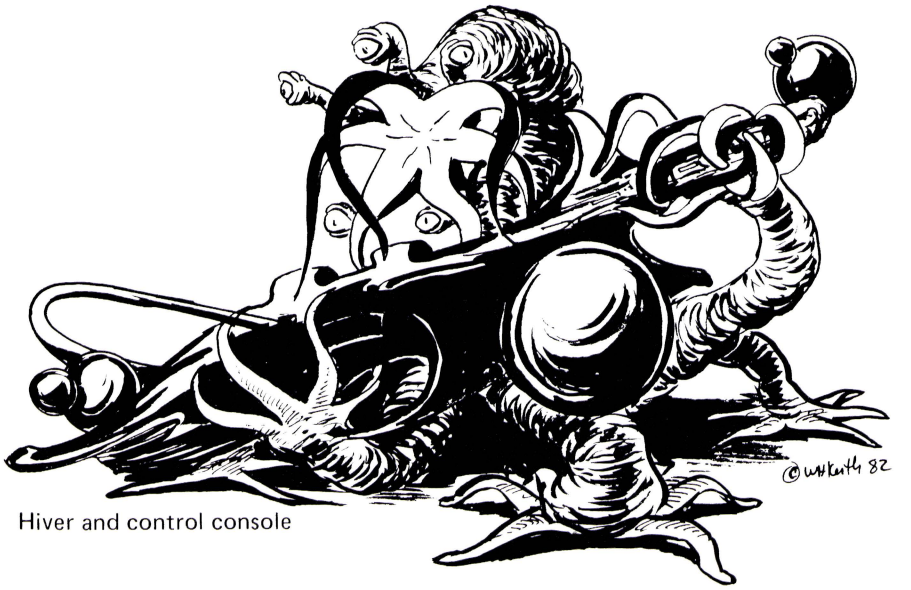
Hivers are unique among major races in that they had a complex culture before becoming sentient. Originally, they lived in the tunnels and built-up mounds of a large (1000 kilogram) burrowing animal. In exchange for shelter, they gave food. They farmed fungus, foraging outside for decaying vegetation and dead animals as a source of food for the fungus. Hivers ate the fungus and whatever fresh food they could find outside. Intelligence arose as the outside environment changed, forcing the foraging parties to travel farther and discover new sources of food and fertilizer; foragers advanced from simple scavenging and gathering to complex cooperative efforts to hunt and trap live game.

Today, fungus remains the main staple of the hiver diet; fungus growing is a highly developed art. Most buildings retain the beehive shape and large underground tunnel complexes of the original burrowers, but are constructed by machines; the burrowers are now reduced to the secondary function of keeping the tunnels clean. Hiver attachment to them is essentially non-rational; they just feel more comfortable with the burrowers around.

Because of the nature of their reproduction, hivers never experienced the population pressures so important to human history. The population of the homeworld is now only a few hundred million, only ten times greater than it was in pre-historic times. Predators (and occasionally, other measures) control the young; when the adult survival rate rises, thus increasing the numbers of young produced, the predator population increases proportionately and the balance is automatically maintained.

After the discovery of jump drives, hiver interstellar colonization arose not from pressure but from curiosity, with which hivers are amply endowed. They have colonized only those planets with climates most pleasant to hivers; if the planet has no predators that like to eat hiver larvae, they are imported. Because of the high birth rate, a colony will rapidly fill up to its maximum population level of a few hundred million, and will then stabilize. Hivers like planets of size 6 or less, with thin or standard atmospheres and unvarying climates. Hiver enclaves, for commercial or scientific purposes, are found on worlds of more extreme characteristics.

The political history of the hive is rather dull and colorless to humans. They have almost no military history, the only major item of interest is the Hiver/K'kree war of -2029 to -2013. This conflict grew out of K'kree expansionism. Within a few years of initial contact, several outlying Federation worlds were occupied by the



Hiver and control console

K'kree, and war resulted. The war proceeded in several stages. The military technology of the K'kree proved superior in the first years, since the Federation navy had, up until that time, been a small peace-keeping force which had never been in a major interstellar fleet action. As the K'kree slowed their invasion, and attempted to occupy and absorb their initial conquests, the Federation expanded the navy, and eventually achieved parity with the K'kree fleet, but the war ended due to non-military considerations. The Federation horrified K'kree negotiators by demonstrating to them a plan to alter radically the K'kree social order, and by threatening to implement this plan, forced a return of the occupied worlds and establishment of a border which has remained stable to the present day.

After the war, the Federation navy gradually returned to its former state, remaining there until recently, when threats from Solomani expansionism have caused the Federation to expand its fleet once again.

HIVERS OUTSIDE THE FEDERATION

There are no hiver dominated worlds outside the Federation. Several million hivers can be found within the borders of the Imperium, engaging in trade, taking part in cultural and scientific study missions, and servicing and maintaining hiver-manufactured computers and other equipment. Hiver merchant ships ply the trade lanes throughout the trailing regions of the Imperium, in the various client states on the Federation's borders, and in the Solomani sphere.

A typical hiver enclave on a world will consist of several buildings (the exact number depends on the size of the enclave) in the midst of a large wilderness area with a high barrier surrounding it. The wilderness usually contains hiver flora and fauna, and its purpose is to provide a place for larvae to be thinned out. The barrier serves to protect the other inhabitants of the planet from the predators within, and to assure that the yearlings do not wander so far away

that they cannot be located.

Hivers outside the Federation keep in contact with their race. When hivers meet outside the Federation, they will often take time out from their other duties for shaking hands and discussions to keep each other informed. These exchanges can take anywhere from a few minutes to a few weeks, depending on individual circumstances. Hivers from permanent enclaves outside the Federation often journey to the federation to join an embassy ship, and then return to their nest in the enclave.

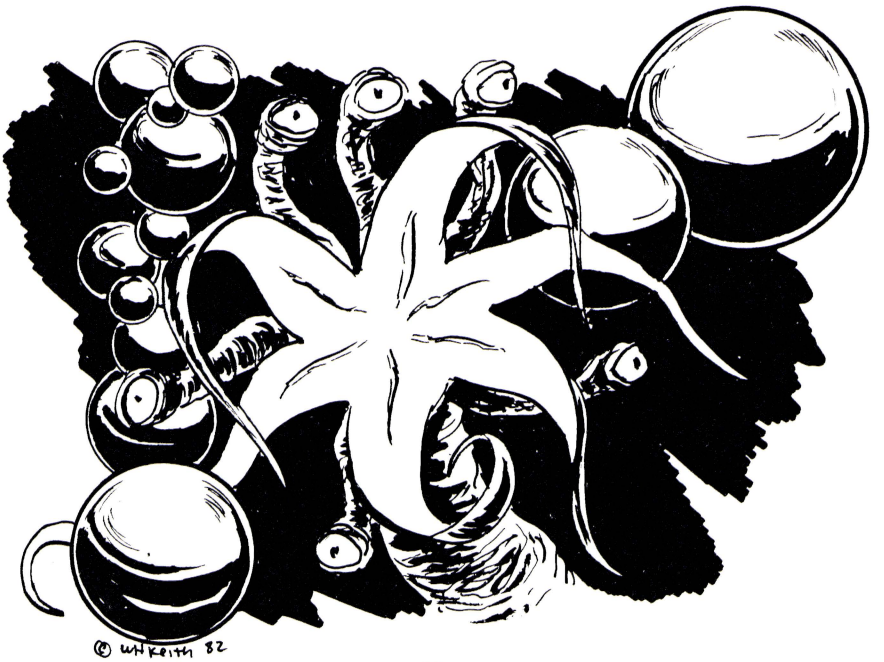
HIVER CHARACTER TRAITS

The strongest motivations in hivers are survival of the race (and maintenance of a consistent racial genotype and culture), the parental instinct, survival of the individual, and a burning curiosity. Lesser motivations include a desire for personal comfort and a desire to maximize stability, both small subsets of the desire to establish a nest and preserve the continuity and unity of the hiver race.

The strong parental instinct can be considered a part of the general desire for the survival of the race. The parental instinct does not extend to the larvae, however. Until they are yearlings, and return to the nest to begin education, hivers consider their young minor pests. Additionally, this parental concern can take a peculiar form (at least from a human point of view). For example, hivers are horrified by the idea that a hiver larva might somehow find its way to a world where there is no nest to receive it if it should survive. To prevent this, hiver ships are carefully fumigated to kill any hiding larvae before landing or docking, and extreme measures are undertaken to ensure that no hiver crewmember deposits larvae where there is no nest. The notion of artificially limiting larvae production is anathema.

REFEREEING HIVERS

Character Generation: Hivers cannot be generated using any simple adapta-



tion of the normal system, and it is suggested that the referee use them only as non-player characters until a comprehensive character generation system can be published for them.

Characteristics and skills should be assigned to hiver NPCs as the referee sees fit. Hivers are low gravity creatures, and are weaker than humans. The flexibility and number of their limbs will make them more dexterous. Apply a DM of -2 to strength and endurance, +1 to education, and +2 dexterity. They will have no weapon skills, and no close combat skills such as brawling. They can have almost any technical skill (including operation of large, long range weapon systems such as meson guns). Referees should use common sense in assigning skills.

Hiver equipment and tools differ radically from human equipment and tools (the globes appearing in the drawings are hiver dails and readouts). Hivers suffer a dexterity DM of -2 when using non-hiver equipment, any non-hiver using hiver equipment suffers a DM of -4 to dexterity.

Combat: The hivers' dislike for personal violence coupled with their small size and overall weakness make hivers poor hand-to-hand fighters, except for the fact that their tough, flexible arms often enable them to best an unarmed opponent by grappling. Their unfamiliarity with weapons (treat all hivers as skill-0 in all small arms) makes them of little value in a fire-fight. Treat all hivers as wearing jack, to reflect their tough skin.

Curiosity: Curiosity in hivers can basically be treated in the same way as in humans. Hivers are interested in knowing the unknown, but no more so than a very curious human. Hivers will buy information if they are interested and it is the easiest way to obtain it or if they know another hiver they can sell the information to.

Names: Hivers have individual names, but since they have no spoken language, will choose a name for use with other races. This name may be a translation of their own name into the other race's language, or some name the hiver finds interesting (such as Ned, Aloysius, Newton, Einstein, Rutherford, etc.).

Other Races: Hivers view other races as "children", i. e., uneducated yearlings who need to be lifted to civilization. Of the major races, they find humans most similar to hivers, and consider them the best candidates for civilization outside the Federation. Imperial humans are considered to be more civilized than the inhabitants of the Solomani sphere, who are too militant. Hivers have not had extensive contacts with the Zhodani or with the Vargr. Aslan and K'kree are seen as too aggressive to be civilized.

Final Notes: Hivers are difficult to role-play, and require extra effort on the part of the referee, but practically any campaign can benefit from their alien nature.

— John Harshman, Bill Keith, Loren Wiseman, and John Astell

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Casual Encounters

Mercenary First Sergeant

Gunnar Haelvedssen BA9886 Age 38 5 terms Enlisted in Marines. Final rank - First Sergeant.

Special Assignments: Protected Forces Training, Specialty School (medic), Commando School, cross-trained in Support.

Awards and Decorations: Seven combat service ribbons, three MCUFs, one MCG, two purple hearts.

Equipment Qualified On: ACR, Grenade Launcher, Vacc Suit, Demolitions.

Skills: Combat Rifle-4, Instruction-3, Gunnery-2, RAM Grenade Launcher-2, Vacc Suit-2, Brawling-2, Forward Observer-1, Tactics-1, Zero-G Combat-1, Mechanical-1, Combat Engineering-1, Medic-1, Demolitions-1, Recon-1.

Gunnar Haelvedssen put in three terms with the Imperial marines before mustering out to join Ranwell's Raiders, a crack mercenary company operating on the fringes of the Imperium. Unfortunately, the Raiders were involved in an action on Ladaer, supporting loyalist troops during the holding action around the capital at the climax of the civil war there. In that action Ranwell's Raiders ceased to exist as a coherent unit. Gunnar was one of the few lucky ones able to use his repatriation bond after the loyalist collapse.

Haelvedssen has not since served with any mercenary unit. He has been hiring out alone on odd jobs, ranging from shipboard security to bodyguard to bouncer in a starport bar. He is close-mouthed about his past, and gives the general impression of having chosen to avoid further military service out of bitterness at the loss of his unit. Very much a loner now, Gunnar is not an

approachable man, and there are few who care to find out anything more about him.

In point of fact, Haelvedssen has not been able to find a mercenary unit willing to take him in. Rumor has it that he is either incompetent or a coward; he has a record of freezing up in stress situations dating back to his days in the marines – this was the major reason why he resigned after only three terms, despite his love of the service. As a mercenary, his career was spotty, but, on the whole, successful, until the battle on Lodaer. In that action, Gunnar's platoon was pinned by heavy fire in a dangerously exposed position. He performed well until his commanding officer, Lieutenant Shandiku, was badly wounded. As senior NCO present, Gunnar was left in charge, but froze up and was unable to do anything even while a private screamed at him, asking for orders. The platoon took heavy casualties before being overrun and forced to surrender. The lieutenant later died of his wounds.

Gunnar Haelvedsson is neither an incompetent nor a coward; he simply lacks confidence in himself, and is thus unsuited to the pressures of command. In every case, his freezing up has been the result of being placed in a position of responsibility beyond his capacities. He is himself largely unaware of the nature of the problem, though he knows that something is wrong. Determined to "lick this thing once and for all", he has become eager to get involved in combat, in order to prove himself.

In any situation where he is called upon to make decisions, particularly those involving the safety of others, Haelvedssen is likely to freeze up. When he recovers – after a gap that can last several minutes or even hours – he will not be aware of what has happened, but will feel vaguely guilty or responsible. At all other times he is an excellent soldier, brave and competent, with a wide range of useful skills and experience with a number of weapons systems. His skill and expertise will make him a valuable part of any mercenary unit or adventuring group. So long as he does not feel ultimately responsible for the course of events, all will be well.

If Haelvedssen's past is checked, hints of his supposed cowardice – mostly rumors or cryptic remarks from old acquaintances – will crop up. He is unlikely to discuss the matter himself, unless confronted by accusations or evidence. In such a case, he will admit to the problem, (as he understands it), but swear that he has it under control, and will not get into trouble again.

Gunnar is tall, broad, well-muscled, and rugged. His morale rating – 18 – is excellent, but he is considered to have low initiative for purposes of Striker combat. He likes guns and carries an ACR and a number of accouterments, over which he lavishes a great deal of care. He may have up to Cr20,000 when encountered, or as little as the referee deems appropriate for the situation.

Gunnar may become involved with a group of adventurers as a hireling, presenting himself to them for employment when they are in need of a military veteran. If he is hired, he may prove more of a liability than an asset, despite his expertise. In addition to the possibility of freezing under stress (determined by the referee), Gunnar will actively seek out fights whenever possible, and may involve the party in unnecessary confrontations out of his obsession to prove himself. The referee may choose to regulate attempts for Gunnar to overcome his problem, possibly with player help.

Players may also encounter Gunnar as a chance acquaintance; he may be a fellow traveller, or employed as a ship

security man, a bodyguard, or some other similar job. Impetuous and brave, Gunnar may intervene in a fight or otherwise involve himself in the adventurer's business. The referee can steer this involvement in the manner best suited to the flow of the adventure.

Finally, Gunnar himself is a target of revenge. Endulas Shandiku, brother of the lieutenant killed on Lodaer, has blamed Haelvedssen for his brother's death. He is now in the process of tracing the sergeant down, having sworn vengeance. Shandiku may hire players to look for Haelvedssen, to bring him to Shandiku, or even to kill him. Or they may be involved in the crossfire when Shandiku's men attack Haelvedssen.

Shandiku is more than a little crazed, and could go completely insane over his obsession with Haelvedsson and the death of his brother, but there is nothing wrong with his abilities at locating and pursuing his enemies — including anyone who gives aid to Haelvedsson.

— J. Andrew Keith

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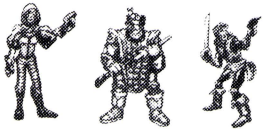

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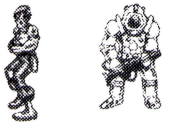

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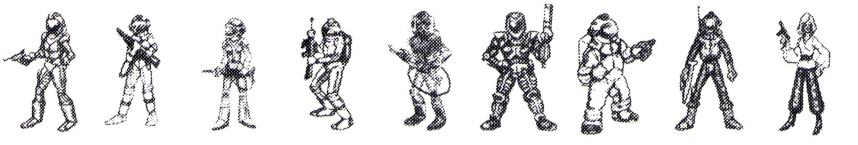

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Real Time Traveller

ref's notes

No game player with commitments to school or work ever has enough gaming opportunities. Large blocks of free time are rare. Congenial opponents with matching schedules are even rarer, especially for campaigns, which require several players to show up regularly. Too many games end before they are properly resolved.

The boardless nature of **Traveller,** however, permits greater flexibility. With some small adjustments, a satisfying solitaire Traveller campaign can be conducted on the basis of a few minutes each day, by playing the game in "real-time" terms. Make one day in your life match one day in the game. After breaking down **Traveller** events into daily steps, most actions (a patron search, selling cargo) can be handled in the few minutes it takes to throw dice, consult a table, and note the result in a continuing log.

Such a procedure can do more than just add flavor to your coffee-break, however. Both referees and players can gain empathy with their characters by experiencing their lives in real-time terms; long days in hyperspace, the excitement of planetfall, anticipation of that next encounter with the unknown.

The real-time player soon learns that time hangs heavy while in vacuum. Maritime sailors took up scrimshaw and the hornpipe for good reason; space travellers will do the same. Some obvious shipboard pastimes include music, crafts, the martial arts, gambling, and language study (an as-yet untapped feature of the **Traveller** universe). Some of these mesh easily with existing skills (gambling, brawling), others imply new ones, perhaps minstrelsy as a career, or as a source of casual work. Something like twenty in-flight weeks of successful practice seems reasonable per level of expertise, success achieved by a die-roll measured against the UPP (throw dexterity or less for musical skill, for example, intelligence for languages, and so on). One might similarly generate existing skills on mustering out, one

throw per service term.

Days spent planetside will be just as long, especially for the action-oriented personalities assumed in **Traveller.** In addition to self-improvement, characters without patrons will soon turn to gambling, money-making schemes and even crime to pass the time. One could even assume that a character without work will ship out after two to three weeks in a prospectless backwater; the real-time player will certainly be ready to leave. Obviously, the points made have implications for regular **Traveller** as well.

Real-time play also offers the opportunity for as much attention as the player wishes. There is ample time to generate planetary descriptions and maps of upcoming ports. Incorporate necessary bookkeeping into the game by drawing up landing papers, bills of lading, registration forms, and so on. These can lend flavor as well as provide clear records as playing aids. One can also fully develop non-player characters met as encounters, passengers, or crew.

Some attention to detail becomes necessary in real-time play, in particular the day-to-day sequence of starship operations and commerce. The following chart covers the typical two-week travel cycle, broken down into daily actions, and suggests activities for both passengers and crew:

Day 1: Pre-launch actions. Passenger boarding. Lift-off and begin flight to jump-point (this may take several days depending upon the system's geometry). Check for possible hi-jacking attempts.

Day 2-5: Jump to hyperspace (whatever day it occurs). Work out crew and passenger UPPs as needed, resolve any possible encounters and misjumps.

Day 6: Throw for self improvement.

Day 7: Seek possible patron among crew or passengers.

Day 8: Leave hyperspace. Resolve any ship encounters, hi-jack attempts, and so on.

Day 9: Flight to port (may take several days). Prepare landing papers.

Day 10-12: Land, debark, pay crew, maintenance work, and other costs. Sell cargo, deliver any messages. Ship's masters assess cargo awaiting shipment, contract as carriers and accept fees. Crew to starport bars, hotels, etc. Resolve possible encounters.

Day 13: Ship's masters seek passengers to next port of call. Load cargo. Pick up possible messages for delivery.

Day 14: Buy or generate navigation tapes. Buy and load fuel. Buy cargo for speculation, if any space left. Last visit to bars for possible encounters.

Day 1: Cycle repeats.

Real-time adaptation of **Traveller** works best where the player most carefully controls his own actions; a foot-loose wanderer, or the operator of a starship. It is less suitable for static situations, or those in which a character is merely a subordinate, for example, in a mercenary campaign played at an abstract level. Of course, such situations could also be broken down into daily events, if desired.

Sometime in the third week or so, the new real-time player may experience an overwhelming urge to accelerate the pace, perhaps to skip over five days in flight to reach the next port. Resist this temptation. You began this whole thing with the idea of experiencing real-time play, stick it out.

Real-time play may not be suitable for all **Traveller** players, but for the solitaire player, or the player with no time to engage in a regular campaign, it can provide an insight and appreciation of the size and complexity of the universe that few games can.

— Steven Sowards

8th Annual

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for "Creativity in Gaming"

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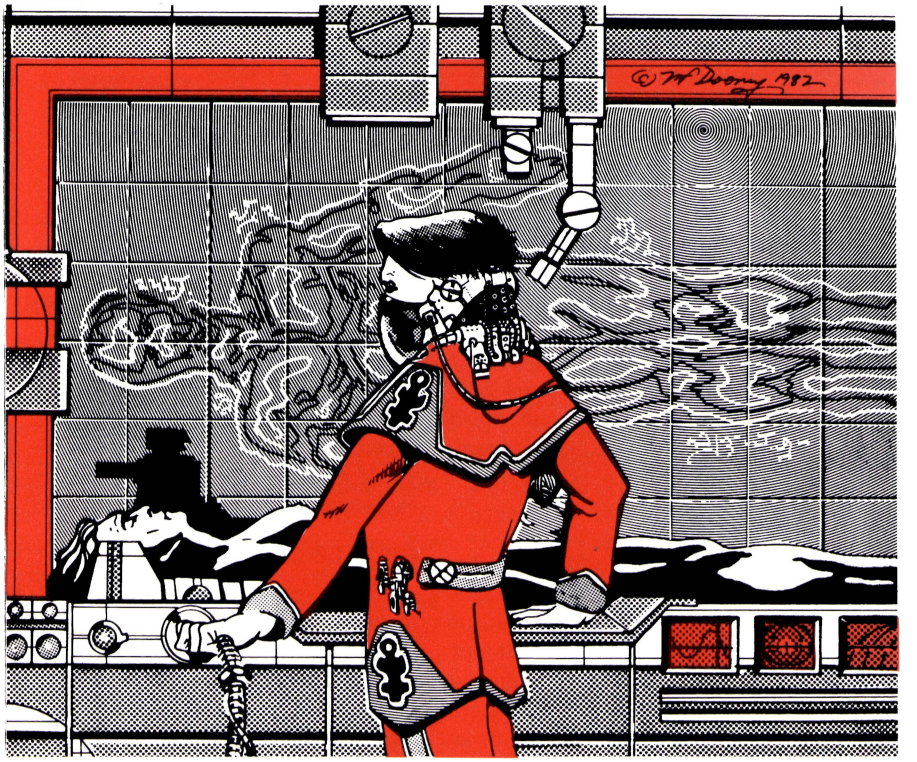

Plague: Disease and Treatment in Traveller

One peril Traveller adventurers may encounter during their journeys through the future universe is the hazard of disease, especially when they travel from high technology civilized worlds to low technology backwater planets.

A previous article has covered the effects of wounds suffered in combat and their treatment. This article will deal with the possibility of contracting disease during a character's adventures, the effects of possible diseases, and the methods and costs of treatment.

EXPOSURE

Characters may be exposed to disease in a wide variety of circumstances during their adventures. Generally speaking, they have a greater chance of contracting a disease on a low tech level standard atmosphere world than any other. Disease has been either eradicated or substantially reduced on higher tech level worlds and consequently the chance for exposure is less.

Pathogens affecting humans generally will not exist on vacuum worlds or worlds with exotic atmospheres, and are less likely to exist on worlds with tainted atmospheres.

They may well exist, however, within the close confines of starships or in the underground or domed cities of vacuum or exotic atmosphere worlds.

The referee should roll once a month for each character to be exposed to a

disease (the frequency may be increased or decreased if deemed necessary). If a modified roll of 10+ is made, the character has been exposed and may become ill. The following DMs should be applied to the exposure roll: If endurance is 10+, -1; if character is an ex-scout -1; if character innoculated -1; if endurance 6-, +1; if endurance 4-, +12; if in epidemic area, +2; if closely confined with disease victim(s), +3; if world tech level 12+, -2; if world Tech level 8-11, -1; if world tech level 5-7, 0; if world tech level 4, +1; if world tech level 0-3, +2; if tainted atmosphere, -1.

DISEASES

Literally hundreds of different diseases could be encountered on worlds capable of hosting pathogens dangerous to humans. Because of this, an attempt to detail the diseases that could be contracted by Traveller characters would require a very thick book, or at least a very complex set of disease generation tables.

To simplify matters somewhat, let's look at the effects of disease on characters, rather than specific illnesses.

There are four different levels of illness that could be suffered by characters exposed to pathogens: mild, moderate, severe, and catastrophic. Each will affect the character's by a varying amount, and make characters ill for a varying length of time. In addition, some characters who have been exposed to a disease may suffer no effect because of their strong constitutions, previous innoculations, or just plain good luck.

Once a character has contracted a disease, the illness will become apparent after a 1 to 6 day incubation period. Its severity will be determined by a modified two dice roll on the disease severity table.

Disease Severity Table

Die	*Effect*
2	No Effect
3	No Effect
4	Mild Illness
5	Mild Illness
6	Mild Illness
7	Moderate Illness
8	Moderate Illness
9	Moderate Illness
10	Severe Illness
11	Severe Illness
12	Catastrophic Illness

DMs to disease severity table: If endurance is 10+, -1; if endurance is 6-, +1; if endurance is 4-, +2; if character is ex-scout, -1; if character innoculated, -1.

DISEASE EFFECTS

The effects of disease vary with the severity of the illness and the parts of the body that are affected. Once a character becomes actively ill and the severity of the disease is determined, more die rolls are needed to determine how much and for how long the character will suffer.

In the case of a mild illness, roll 1 die; moderate illness, two dice; severe illness, three dice and catastrophic illness, four dice. The result will determine the total wound points inflicted by the illness.

Apply the disease-inflicted wound points to all three physical characteristics. If one characteristic is reduced to zero, the character is disabled. If two characteristics are reduced to zero, the character is in a coma. If all three are reduced to zero, the character dies after 1—6 days.

Roll one die on the disease location table to determine the parts of the character's body affected by the illness. More detailed disease descriptions (such as specific symptoms) are up to the referee, but may be dispensed with if desired.

Disease Location Table

Die	*Location*
1	Respiratory Tract
2	Respiratory Tract
3	Gastrointestinal Tract
4	Gastrointestinal Tract
5	Neuromuscular System
6	Skin or Muscular System

DM -2 if Mild Illness.

TREATMENT

Ill characters who are either ambulatory or disabled, but conscious, can usually recover on their own. Ambulatory characters should roll one die and disabled characters two dice to determine the time in days it will take them to recover without treatment. The ill character's UPP will remain at the temporary low level throughout the duration of his or her illness. Disabled characters must rest in bed during their illness. If forced to be moved about, their recovery time will be increased by an additional 1–6 days every time they are moved. Medics in attendance reduce the number of days the character is ill by the number of their skill level. If an ill character is moved under the supervision of any person with medic skill, no days are added to the recovery time. If more than one medic is in attendance, their skill levels are cumulative. Thus if a medic-3 doctor is assisted by a medic-2 nurse, five days are subtracted.

Characters in coma must have at least one medic-3 doctor and one medic-2 nurse caring for them in a fully equipped intensive care medical facility in a hospital or ship's sickbay for the first 1-6 days of their illness if they are to fully recover within 3-18 days. They regain consciousness after their intensive care time with one of their zero characteristics raised to 1. They must, however, spend the rest of their illness hospitalized in a normal ward or room. Again, the duration of the disease can be reduced by the skill number of the attending medical personnel. Characters in coma who do not receive the required level of medical attention must roll 6+ or survival. If they survive, they need to roll 8+ to fully recover. If they fail the recovery throw, they have suffered permanent physical impairment and will have their permanent physical characteristics reduced to one half their previous normal value.

DRUGS

There are four types of drugs useful in preventing or treating contagious diseases: vaccines, antitoxins, antibiotics and metabolics. They can be generally obtained only from a physician (medic-3+) or with a physician's prescription on worlds with law levels of 8+. These drugs are generally available at retail on worlds with a law level of 7-. Since they are administered by injection, they must be given by a character with at least medic-1.

Vaccines (TL5): These help prevent illness if they are taken once per year. They reduce chances of contracting a disease and the severity of a disease by 1 on both the disease exposure table and disease severity table. Vaccines for a single disease are available for Cr15 per innoculation. Vaccines that prevent several similar diseases on the world where they are produced are available on worlds with a tech level of 10 or above for Cr20 per innoculation. A separate vaccine must be taken for each disease.

Antitoxins (TL6): Antitoxins combat poisons generated by microorganisms which have infected the patient and thus hasten recovery. They reduce both the severity roll by 1 and the duration of the illness by 1-6 days. In the case of a patient in a coma, antitoxins will add 1 to both the survival roll and the recovery roll. Antitoxins

produced on worlds with TL 12+ will add 2 to the survival and recovery rolls. Antitoxins must be administered once a day throughout the duration of the illness at a cost of Cr20 per injection. Antitoxins are disease specific, and each effects only one disease.

Antibiotics (TL6): These drugs attack the microorganisms that have invaded the body and hasten their recovery. If effective, they subtract 2 from the disease severity roll, and hasten recovery by 2–12 days. While generally effective, they have drawbacks: they may not be effective against the specific microorganisms in a patient's body and they may cause an allergic reaction. If antibiotics are used, roll two dice for effectiveness. On 9+ the antibiotic is ineffective and another must be tried. On 11+, the patient has had an allergic reaction and suffers an additional 2-12 wound points. Antibiotics have a cost of Cr50 per injection, and must be taken once per day during the illness. Roll the effectiveness throw only on the first day of use.

Metabolics (TL8): These are extremely expensive drugs similar to interferon that are effective against a wide spectrum of diseases. They function by altering the metabolism of the patient and enabling the patient's body to resist the disease. They subtract two from the severity roll and hasten recovery by 3–18 days. They are always effective. Metabolics are only available on a roll of 8+ (+1 per tech level over 8). Metabolics must be taken once per day of illness, at Cr1,000 per injection.

COSTS

A visit to a physician's office costs Cr20 plus the costs of the prescribed drugs. In addition to the major drugs detailed above, minor pain and symptomatic relief drugs are available in pill form for Cr5 per 100 doses. Taken every four hours, these subtract one wound point from those suffered by ambulatory patients.

Hospitals cost Cr100 per day for regular care and Cr500 per day for intensive care. Medic-2 nurses are available for Cr50 per day for disabled patients who do not wish to be hospitalized. This may extend recovery time because of the absence of a physician's medical skill factors.

REF'S NOTES

Diseases and their treatment are potential sources of revenue for characters with medic skills and for merchant characters willing to transport drugs from relatively high tech worlds to low tech worlds where they might be needed but not available.

Adventuring scenarios can be developed around procuring and transporting drugs, rescuing individuals from plague areas, and setting up a medical station in a plague area on behalf of a wealthy, humanitarian patron.

The threat of disease can spice up other adventures. For instance, an epidemic could break out among a group of colonists trying to settle a frontier world. An infected individual might be brought aboard a ship and cause an outbreak among the crew. Adventurers might become ill just as they are about to reach an important goal, thus disrupting and delaying their plans. Imagine what havoc a severe gastrointestinal infection might cause in the cramped quarters of a troop transport or scout ship. The possible effects of germ warfare can be extrapolated from these rules.

Referees should bear in mind that a disease which affects one race will probably not affect others, and likewise, drugs will probably have vastly different effects on different races.

– Terrence R. McInnes

Thoughtwaves

Players' Information:

At the outbreak of the Fifth Frontier War, a small team of archeologists from Weishaupt University was investigating an unusual underwater site on the frontier world Kehaan (X-8A9000-0), an uninhabited planet in the 899-076 system. After the Zhodani incursion, Kehaan was within Consulate-controlled space and assumed captured.

As the world is of little strategic importance and only seven Imperial

Amber Zone

citizens are involved, the authorities have declined to help; the university is

therefore seeking a small commando force to rescue the scientists and their data.

It is made quite clear that the mission, while perhaps not illegal in the strictest sense, is not sanctioned by the Imperium. The payment, on success only, will be Cr500,000 for the data and Cr100,000 for each of the scientists recovered alive.

Referee's Information:

If the players do not have a starship available, a scout and pilot will be provided from the service reserve (the result of some string-pulling by the university). The pilot must be paid an equal share of any reward; he is taking at least an equal risk.

Kehaan Site One is a kilometer offshore from one of Kehaan's several large islands, under 40 meters of water. A field station, consisting of some pressurized shelters connected by tube corridors, has been set up on the sea floor; access to land is by submersible ATV (see Journal 12, page 7). A modular cutter with ATV module is parked on the island; it is empty (remember that Kehann's atmosphere is unbreathable).

Outside the field station, sealed electric floodlights illuminate the site proper: a three-level step-pyramid, glossy black and featureless except for one entry corridor.

This corridor leads in and up to a half-flooded room, where the researchers change from wetsuits to coveralls. The air within is slightly thin but breathable.

The site interior is a maze of corridors and rooms, lit very dimly by reddish ceiling strips; the scientists have brought in generator lights, though only enough to light a small fraction of the structure at one time.

The two lower levels of the site have been explored in some detail. They contain what appear to be laboratories and spacious living quarters. All the accessible machinery is inert, corroded solid, and nothing organic remains; the archeologists guess that the pyramid has been unoccupied for at least three thousand years. No means of access have been found to the top level, from inside or out.

The Zhodani occupied Kehaan without a fight, as one might expect given the opposition. On landing, however, an over-eager gunnery officer caused the destruction of the expedition's submersible ATV, with two persons, Drs. Chang and Wexler, aboard. The wreck has not been located, but a sweep by ship's boat failed to find survivors.

To make amends for this accident, and because the Zhodani commander was favorably impressed with the honesty and seriousness of the university team – plus the fact that the Consulate considers Kehaan no more important than the Imperium does – the archeologists were permitted to continue their work, under the supervision of a small security detachment, while the fleet moved on. Obviously, the Imperials are disarmed and denied access to their ship.

The security section consists of eight ship's troops, lightly armed and armored and competent in underwater operations, and two Intelligence officers. Both officers are intendants, and officer/interrogators: Captain Chizhiliepr, telepath of strength 10, and Lieutenant Shvetiepr, telepath and clairvoyant of strength 9. They were landed by ship's boat, which is parked and anchored on the sea floor near the field station (recall that streamlined Traveller spacecraft are by definition submarines).

Captain Chizhiliepr is aware that this assignment, while in some ways trivial,

is in others a test for him; he hoped to co-exist as smoothly as possible with the Imperials, returning to regular duty with a good report – and some valuable archeological data.

That was the situation when the station was captured two months ago. Since then, matters have become strained. The two Zhodani officers have received psionic emanations of an unfamiliar sort, causing them headaches and other discomforts. When questioned, all the scientists denied psychic abilities (with some distaste, in fact).

Finally, after a particularly severe episode, the officers probed the five scientists – Drs. Higher and Benda requiring physical restraint, Dr Benda breaking a trooper's arm in the process – without results. Yet the broadcasts continue. Shvetiepr has attempted clairvoyance of the top level of the site, but is blocked.

It is clear to the Captain that the pyramid contains some kind of psionic mechanism – and equally clear that it must not fall into Imperial hands. Yet none of the scientists appears to be actively involved. And if Chizhiliepr evacuates the site, it will appear in his record that he could not keep rein on a handful of unarmed civilian . . . deadheads.

He dares not probe again; forcible psychic invasion of non-combatants is against regulations. The first probe might be excused on the grounds of military security; a second cannot. Similarly, he cannot simply seize the scientists' data without some military reason. (He might find it difficult anyway; Dr Morningside keeps a tight watch on the cartridges. There are enough to fill two large briefcases; they are stored in a watertight cabinet in one of the station shelters.)

The Zhodani soldiers, aware of their officers' distress, are becoming nervous. The scientists, who are hardly superstitious, are starting to see and hear things in the darkness. It is only a matter of time until something snaps . . .

Facts: The structure is a planetary-survey starship, built by a now-extinct race of oxygen breathers from a dim red star. The lower levels contained complete facilities to gather and analyze specimens; much of the machinery was controlled psionically.

After the survey was complete, the top level – a complete starship – would detach and carry the complete crew and their information home; the lower part is incapable of the return trip.

On this voyage, however, something happened to the crew, something very sudden and completely final. Now all that remain functional are the air refreshers, the glowstrips, and – in the top, sealed section – the flight systems and the ship's psionic control system (psicon).

When the submersible was blasted, Dr. Chang was killed; Dr. Wexler, in his wet suit and breathing rig, was swept out of the sinking hulk after sustaining a massive cranial trauma. Somehow, this injury put him "in tune" with the psicon, which guided him to the ship and admitted him to the upper level. He spent the time since learning what the psicon can teach him.

The psicon has a strong programmed impulse to return to its homeworld; because Dr. Wexler insisted on learning other things first, he is not yet capable of piloting the ship-level, but will be in a few more days.

Unfortunately, he may not live that long. Intracranial bleeding from his head injury is producing headaches and transient paralysis – which the psicon transmits to the Zhodani officers. Wexler becomes weaker and more confused after each attack; in lucid periods he realizes that he will die

without treatment, and he has on at least two occasions gone into the lower levels in search of help, only to become confused again and return. Pale, unkempt, bloody, in a torn white wetsuit, he could be anybody's idea of a ghost in the red darkness; and if disoriented enough he might draw and use his sheath knife . . .

This adventure does not have to be approached as a commando raid. The rescue party is not even necessary. The players might be the captive scientists, the Zhodani, or some of each.

No matter what the viewpoint, however, atmosphere is all-important

(the reason this amber zone is more detailed and longer than usual). The players must be kept tense and uncertain, in the fashion of a Gothic horror story. Surprise them; scare them if you can. Efforts to give the feeling of being in dark, haunted corridors, surrounded by a crushing sea, will be rewarded.

Don't have things happen too fast – this could take days of game time – and especially don't bring on Dr. Wexler too soon. (If you can convince the players that the missing people really are dead, so much the better.)

If Wexler lives long enough, he will launch the top level and depart; he and anyone with him (possible only if Wexler brings the person inside) will never be heard from again. After separation, the lower levels will be suddenly and violently flooded. The glowstrips will continue working, but no means are available to seal and pump the structure dry.

If Wexler dies, the site will again become an inert artifact of historical interest only. Treatment of his fatal condition will also break his link with the psicon. Under no circumstances will anyone achieve "control" of the psicon, and Wexler's "lucky" accident is not reproducible!

Possible surprises include the finding of a body, knifed by the mad doctor (in the best slasher movie tradition); a hunt for the sunken submersible; confrontations with Dr. Morningside over possession of the data cartridges (she will not voluntarily give them up to anyone, including self-styled "rescuers", while able to resist) or with the pugnacious Dr. Benda and her black belt; appearance of the Kehaani ocean life the aliens were studying (its nature determined by the referee); and the mystery of what killed the original crew.

It will probably be necessary for the Zhodani and Imperials to cooperate in order for all to survive. Capt. Chizhiliepr is intelligent, though under great stress, and will do what he must – but will not forget who controls this part of space.

And escaping from Zho space with five scientists and two satchels of data could be an adventure in its own right.

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Torches & Welding Equipment

Used primarily in metalworking and similar fabrication and/or repair work, torches of various kinds will be of interest to **Traveller** players in two basic ways. First, they may be important to some repair or replacement work required for a ship. Secondly, they may be used as weapons if the party is attacked while they are near at hand. Out of the great variety of these tools available, the following are typical:

Acetylene Torch: A 300mm long, chemically-fueled torch good for small repair jobs and spot welding. Fed by a one-liter tank of pressurized, flammable gas, the torch can be used for 10-30 minutes continuously, depending on the intensity of the heat produced. In combat, it can only be used at close range, attacking as a laser carbine, but receiving no modifiers due to skills or dexterity, and causing only 3D damage. *Weight:* 3kg. *TL:* 6. *Price:* Cr150. Refills for the tank cost Cr50 each.

Laser Welder: Similar in size and power output to a laser rifle, the welder is more ruggedly constructed, but of far less utility as a weapon. The laser welder is a semi-portable unit designed for major repair work. The internal power pack is good for 100 minutes of continuous use at standard output, or about 25 minutes of intense use. After this a recharge is required; or the unit can be hooked by adapter cables to a starship or groundside power source for unlimited use. The high setting is normally used for hull repair and other major work. Treat the unit as a laser rifle in combat, without favorable dexterity or skill modifiers. It cannot be used at greater than short range. The laser welder is 1 meter x .75 meters x .75 meters. *Weight:* 20 kg. *TL:* 8. *Price:* Cr6,000.

Portable Laser Welder: A 1250mm long, lightweight version of the laser welder, the portable unit is similar in many ways. It does not, however, use an internal power pack; it is designed to be powered from a standard laser rifle backpack power source, a feature that

makes it a favored tool, for starship crews loathe to carry a multitude of different pieces of equipment and power sources. Standard power settings keep the welder in operation for 25 minutes; full output uses up power within 5 minutes. It cannot be linked to outside generators. Performance is similar to the welder when used in combat, but treat it as a laser carbine. The weight given below does not include the weight of the power pack.

Weight: 8kgs. *TL:* 9. *Price:* Cr4,000.

The metalwork set described in Book 3 normally carries either an acetylene torch or a portable welder (depending upon tech level and other considerations). Most dockyards will be furnished with laser welders, as will ships encountered on patrol or rescue work. Laser welders are not restricted by local law level, but it is highly unlikely that a person could walk down the street carrying one without attracting the attention of the authorities.

When repair work involving welding is required, the referee should determine the extent of the repairs and the length of time needed to complete them. Laser welders (of either kind) do not fire in pulses; they will be switched on continuously as long as the power source lasts, or switched off by a fairly complicated safety switch. Protective goggles or welding masks (or eye-protection gear designed for hostile environment work) are recommended for use with welding equipment.

— J. Andrew Keith

4mm Gauss Pistol

The gauss pistol, also known as the needle gun because of its needle-like projectile and its slim tapered barrel, is extremely popular because of its silence, its deadliness, and its compact nature. Available at tech level 13 and above, the gauss pistol is based on the same principle that operates the gauss rifle and the VRF gauss gun: an electromagnetic field accelerates the needle-like bullet down the barrel, while a bias in the field imparts spin.

It is a compact weapon, resembling a body pistol or small automatic pistol. Some weapons experts see a faint resemblance in the appearance of some designs to the old Terran luger pistol. The gauss pistol is 125mm long and uses 15 round magazines that fit into the gun butt. Each magazine includes an integral power pack to supply electricity for the weapon's electromagnetic field. Reloading takes one combat round, and the firer is considered to be evading.

A selector lever on the barrel near the trigger allows the firer to select single shot semiautomatic fire or four-round burst of automatic fire. The firing setting may be changed at the end of each combat round. The needle gun uses the same 4mm ammunition as the gauss rifle (fully described in *Mercenary)* However, the magazines are not interchangable. Each bullet has a dense penetrating core surrounded by a soft jacket with a hollow point at the tip providing good stopping power and armor penetration capability.

Fired at a velocity of 1200 meters per second, the needle gun bullet causes 4D damage on impact. Because there is no chemical explosion propelling the bullet, the needle gun is virtually silent when fired.

The gauss pistol is easily concealed, but may be detected by metal detectors. It is outlawed on worlds with a law level of 4 or higher.

Length: 125mm. *Weight of weapon:* 650 grams. *Weight of loaded magazine:* 200 grams. *Base Price of weapon:* Cr600. *Base price of Loaded Magazine:* Cr20. *TL:* 13. Other characteristics per *Striker,* Book 3, page 33.

— Terrry McInnes

High Finance

There are two distinct types of **Traveller** adventurers: those who adventure for the sake of adventuring, most commonly found as retired scouts or as members of a mercenary military organization, and those who adventure to get rich — the typical merchant trader.

This article is for the latter type and hopes to show budding interstellar entrepreneurs how to raise capital, finance cargoes, build a shipping line and, if they wish to retire to less strenuous activities, become quite wealthy as cargo brokers.

RAISING CAPITAL

Merchant characters who have been in business for any length of time soon realize their most pressing problem is raising the money to buy the starships needed for their shipping lines.

A merchant wanting to expand his or her shipping company with a subsidized merchant or two will be saddled with an enormous debt that will drain any profit from the venture if the merchant uses the bank financing method described in book 2. There are, fortunately, other ways to raise money.

The most common method major merchants and corporations use to raise capital for their businesses is the sale of stock. Essentially, they sell shares in the equity of their corporations to investors who hope to profit in the rise in value of the assets of a corporation, and who share the risk of financial loss if a corporation should fail.

Investors profit through the rise of the value of their shares above the initial price paid when they were purchased, as well as through dividends (usually) paid quarterly from corporate earnings.

Corporations may be formed and stock sold to investors on all worlds with a population factor of 6 or greater and a tech level of 5 or greater. On many worlds, corporate formations and sale of stock are strictly regulated. Therefore, prospective corporate owners must roll the world's law level or greater after paying a Cr1,000 incorporation fee to the local securities and exchange commission for their incorporation application to be reviewed. A positive DM is allowed for each level of admin skill of the prospective incorporator. Positive DMs are also possible if the incorporator bribes the SEC commissioners. Add one DM per level of bribery expertise, and one per Cr10,000 of the bribe. If the incorporator still fails the incorporation roll while bribing the commissioners, he or she faces a 2D year jail sentence.

Once the prospective corporate magnate has received permission to sell

stock on the local exchange, he or she needs to set the price per share and the number of shares to be issued on the market. In order to maintain control of the corporation, the stock issuer needs to control a block of shares larger than any other single stock holder. Note that a controlling interest does not mean holding a majority of the shares outstanding, although that is a secure way of keeping control and avoiding proxy fights.

To maintain control and still raise a lot of capital, it's best to sell a large number of low priced individual shares costing Cr10 to Cr60 per share, depending on how much capital is to be raised. This should attract a large number of small investors. Remember to invest your own funds and buy as many shares as you can afford in order to retain control. Otherwise you will wind up being a salaried company employee rather than an owner.

Now its time to market the stock. Place it on the market and roll 2D. The result will indicate what percent of the shares have been sold, and how long it has taken to sell them. The stock issue may sell out in one day, or not sell at all.

STOCK SALES TABLE

2	No Sale
3	No Sale
4	5% sold per month
5	10% sold per month
6	20% sold per month
7	25% sold per month
8	30% sold per month
9	50% sold per month
10	100% sold per month
11	First week sell-out
12	First day sell-out

This will give the seller an idea of how long it will take to raise the needed capital. A good, hard hitting public relations campaign can help sell a stock issue. Add a DM of +1 to the sale roll for every Cr5,000 spent on a public relations campaign organized and conducted by a reputable financial public relations company.

Now that the stock has been issued, it will rise or fall on the market, depending on how successful the company is in making a profit in its business. Many other factors influence stock prices, such as local economic conditions, the chance of war, the threat of piracy, even the time of year. Referees can work these into the stock price roll as appropriate.

The stock price can be determined by modified random die roll during almost any time period to be determined by the referee – once a day, once a week, once a month, once a quarter or even yearly. Roll 1D to determine price direction. If the roll is 1 or 2, the price will drop; if 3 or 4, the price is unchanged; if 5 or 6, the price rises. Add a DM +1 if the company showed a profit during the preceding period and a DM-1 if the company showed a loss. Also add a DM -1 if the company failed to pay a dividend during the previous period. Since a small trading company is a high risk speculative stock, roll 3D to determine the number of credits per share the stock rises or falls during the period. If the stock hits zero, the investors are wiped out and lose their investment. The issuer of the stock may wish to skip town at this point.

(The above random walk price determination method was developed by Stan Mullins and presented in his article "The Traveller Stock Exchange" in issue 6 of the Journal. The die roll modifications are my own invention. T.R.M.)

All shareholders (including the individual owner) will usually receive

dividends every three months. To determine the amount of the dividend, divide the total number of shares outstanding into the corporation's accumulated profit after expenses. The dividend per share is usually quite small, often less than a credit. If, however, you have a lot of shares, it tends to add up. The original owner does not have to take a profit, he can reinvest some or all of it in the business, and the shareholders do not have to be paid for the portion of the profits reinvested. This, however, tends to drive the value of the stock down.

BANK FINANCING

Often the capital raised by the stock sale is not enough to finance the operation of a shipping line. Sometimes short term funds are needed to finance cargoes and meet operating expenses. The capital may also be used as down payments for a larger number of ships instead of a few by an owner who wants to expand rapidly, with the balance being financed by other means, such as Traveller's famed Book 2 bank loans. This is called using capital as leverage.

To finance these needs banks will often set up revolving lines of credit enabling shippers to borrow up to a predetermined limit of short term loans for cargo financing and similar needs. These loans are either paid off after one year or "rolled-over" – extended for an additional year for more interest. Roll 4D to determine the interest rate charged per year. Roll when a loan is originated or each time it is "rolled over" to reflect annual rate fluctuations.

Long term loans are often available for ship purchases and similar purposes. These are loans with terms of seven years or longer at 3D initial interest rate that stays the same or varies up or down each year by 1D per cent. (Use the random walk method outlined above.) Only the interest is paid during the term of the loan. The amount borrowed must be paid back in one lump at the end of the loan period.

DEBENTURES

To raise truly massive amounts of money without selling more equity in the form of a new stock issue, a company can sell shares of debt, called debentures, at a certain price per debenture. Debentures are issued exactly the same as stock shares, and their prices fluctuate the same way, too.

However, these are cashed in by the purchasers and the debenture seller has to pay back their face value (the original sale price plus 1D%) after a long period of time, usually between 20 and 30 years. Meanwhile, 2D percent interest per debenture is paid to the purchasers each quarter.

CARGO BROKERING

After a character has reached his late 50s or early 60s – an age when rough and tumble adventuring loses its appeal, he may wish to cash in his stock by selling the shares for their current market value. If the investment has been profitable, there may be enough cash to go into something less strenuous than interstellar shipping: it may be time to settle into the brokerage business.

Cargo brokers help ship captains get increased prices for their goods and charge a percentage of the final price for their services. Brokers also arrange the sale of goods by planetside farmers and manufacturers to ship captains who invest in these cargoes for resale to another world.

Cargo brokers will be sought out at their star town godowns (a combination warehouse and office) by 1D starship captains per week who have cargoes they want to sell on the broker's world. Once contacted, the brokers will negoti-

ate their transaction fee based on a percentage of the cargo value as described in the trade and speculation section of Book 2.

Roll on the trade and speculation table for the type of cargo and the number of tons or units that are for sale by each captain.

Next, the broker will demand 20% of the value and will roll 2D for the reaction of the captain. If 10+ is rolled, the deal will be consumated. If not, the broker will reduce his fee to 15% and roll again with a DM of -2 on the 10+ die roll. If unsuccessful, the broker will reduce his fee to 10% with a DM to the roll of -3. If unsuccessful a third time, the broker will offer to conclude the transaction for a 5% fee and will be successful on a DM of -4. If the broker again fails the throw, the deal is lost and the broker must wait for the next captain with a cargo to sell.

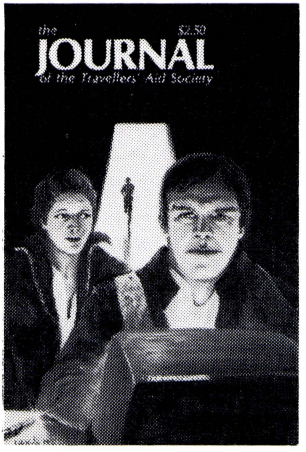
Brokers also handle cargo sales for locals who wish to sell to starship captains. First, note the trade type of the world. If it is agricultural, then only agricultural cargoes are for sale, if industrial then only industrial cargoes.

If the world is non-agricultural, non-industrial, or poor, then only raw materials are available for export. If a world is rich, double the tonnage or number of goods available. Then roll the world's population level by 1D for the number of sellers per week and roll on the trade and speculation table for the type and size of cargo for sale by local merchants.

If an inappropriate cargo is rolled on the trade and speculation table, i.e. vacc suits on an agricultural world, roll again until an appropriate cargo appears.

Once the product, the amount and its relative value are determined, then proceed with the negotiation rolls as with starship captains.

— Terry McInnes



Next Issue:

Laws and Lawbreakers: A series of articles dealing with crime, law, lawyers, and police forces in **Traveller's** Imperium.

Contact: The Darrians. Roger Moore deals with this minor race of the Spinward Marches.

PLUS: Casual Encounter, the Bestiary, Ship's Locker, our other features, and More!

The summer convention circuit should begin in earnest just about the time you read this. As this is written, the Workshop goes into its annual overdrive to assure timely publication of new releases for the convention. If any of our designers look exhausted at Origins, it can be attributed to weeks of long hours and last minute rewrites. Offer to buy them drinks.

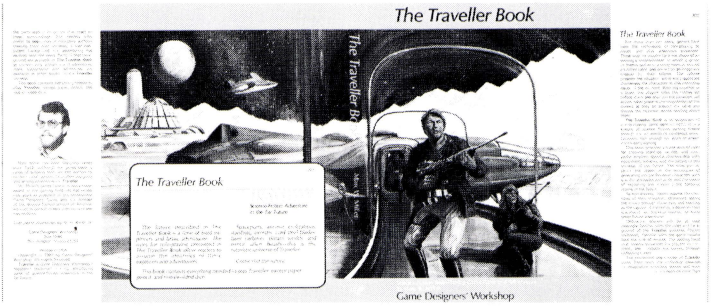
The biggest project at hand is our new series of hardcover **Traveller** books. This new range kicks off at Origins with *The Traveller Book* which includes Books 1, 2, 3, and portions of Book 0, along with new and old adventures and useful appendices— all under one cover. **Traveller** veterans should be able to survive without the new book (there are no substantive changes), but it is expected to become the new starter set for new players.

By Christmas, we should have *The Traveller Adventure* ready, and volumes coming in the next 12—24 months include *The Traveller Alien, The Traveller Encyclopedia, The Traveller Fleet,* and *The Traveller Soldier.*

Several of our usual **Traveller** booklets will be released this summer. Supplement 10, *The Solomani Rim,* is due for Origins and will chart that rimward sector much as the Spinward Marches was mapped. *Prison Planet* is adventure 8, and *Divine Intervention/Night of Conquest* is Double Adventure 6; both are scheduled for August release. On the schedule for December is the second half of *Library Data, volume N-Z.*

Non-**Traveller** games are in the works, too. Historical gamers should be pleased to see *Attack in the Ardennes* (based on the *House Divided* system) and *1815* (a new edition of an old, old, Workshop game) at Origins. The oft-delayed *Assault* and *ETO* are tentatively scheduled for release at Christmas, and *DAK* is also a possibility.

Beyond Christmas, we anticipate our first entries into the field of software for personal computers. We should have three or four releases in January/February 1983, including **Traveller** material, software editions of *Mayday* and *Asteroid* (under a new title), and/or wholly new games. This column in *Journal 14* will have specifics on official **Traveller** software.



A RuneQuest Campaign in Seven Scenarios

Borderlands is a new kind of scenario pack for ***RuneQuest*** ®. It is a complete campaign set in the fantasy world of Glorantha and describes the various peoples and places about the region known as the River of Cradles. *Borderlands* contains two books solely for the referee. The Referee's Handbook provides complete background descriptions and the Encounters Book contains all of the monster statistics and a random encounter chart. In addition there are seven individually bound adventures.

Borderlands

SCENARIO ONE – *Scouting the Land* provides an opportunity for the players to meet their new employer, Duke Raus of Rone (an exiled Lunar charged with the domestication of Prax) and his family and liegemen. It also provides for an overall view of the area and details potential trouble spots. SCENARIO TWO – *Outlaw Hunt* is an adventure to rid the River of Cradles of troublesome outlaws who have been terrorizing shipping. SCENARIO THREE – *Jezra's Rescue* involves rescuing the Duke's only daughter from vicious tusk riders. SCENARIO FOUR – *Muriah's Revenge* requires the players to discover the cause of a virulent disease which is spreading rapidly throughout the valley. SCENARIO FIVE – *5-Eyes Temple* involves scouting out and entering a little known river temple stronghold of newtlings opposed to the Duke's reign. SCENARIO SIX – *Condor Crags* takes the players to the forbidding Eastern Highlands in search of rare giant condor eggs for a mysterious buyer in the far north. SCENARIO SEVEN – *To Giantland* takes the players deep into Vultures Country where every drop of water or bit of food is more valuable than gold. They must meet and bargain with the legendary Issaries giant Gonn Orta. PLAYAIDS and a 17×22" map are also included.

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